WHAT IS CLAIMED IS:

1. A horse riding sporting apparatus comprising: a saddle support(10) for supporting a saddle(2), the support being disposed in the upper central part of a frame(1); a sliding assembly(20) for moving forward and backward the saddle support(10), the sliding assembly being disposed in the front part of the frame(1); an elevating assembly(30) for moving up and down the saddle support(10), the elevating assembly being disposed in the central part of the frame(1); a buffering member(40) connected to the elevating assembly(30); a first working assembly(50) and a second working assembly(60), for moving up and down the buffering member(40), the assemblies being respectively disposed in the rear and the central part of the frame(1); a driving assembly(70) for driving the sliding assembly(20) as well as the first and second working assemblies(50 and 60); a distance adjusting assembly(80) as well as a first and a second elevation adjusting assembly(90 and 100), respectively for adjusting the sliding distance as well as the vertical elevation; a load adjusting assembly(200) for adjusting the load strength for the saddle support(10), the load adjusting assembly being connected to the elevating assembly(30); and a controller(300) for automatically controlling the operation of the above described components.

2. The apparatus according to Claim 1, wherein the sliding assembly comprises sliding levers(21) fixed to the frame(1) through bearings(B1); sliding rods(22), the opposite ends of the sliding rods being

connected to the tops of the sliding levers(21) and to the saddle support(10) through axes(S1 and S2); elevating levers(23), the tops and bottoms of the elevating levers being respectively connected to the bottom ends of the sliding levers(21) and the driving assembly(70) through axis(S4 and S3); and an adjusting rod(24), the top and bottom of the adjusting rod being connected to the elevating levers(23) and the distance adjusting assembly(80) through an axis(S5, S6).

3. The apparatus according to Claim 1, wherein the elevating assembly(30) comprises a driving lever(31) fixed to the frame(1) through bearings(B2) and connected to the buffering member(40) through an axis(S7); driven lever(32) fixed to the frame(1) through a bearing(B3); elevating rods(33, 34), the respective tops and bottoms of elevating rods being connected to the saddle support(10) and to the upper positions of the driving and driven levers(31 and 32) through axes(S8, S9; S10, S11); and a connecting rod(35), the opposite ends of connecting rod being connected to the lower ends of the driving and driven levers(31 and 32) through an axis(12, 13.).

4. The apparatus according to Claim 1, wherein the buffering member 40 comprises a set of the first and second connecting levers(41 and 42), the bottoms of the levers being connected to the first and second working assemblies(50 and 60) via axes(S14 and S15) respectively, and the respective top ends of the levers being connected to each other by an axis(S16); and an

elevating rod(43), the top and bottom of the rod being connected to the tops of the first and second connecting levers(41 and 42), and connected to the elevating assembly(30) via axis(S16 and S7) respectively.

5. The apparatus according to Claim 4, wherein the elevating rod is connected, at its bottom, with the driving lever(31) of the elevating assembly(30) via a axis(S7).

6. The apparatus according to Claim 1, wherein the first working assembly(50) comprises the first working levers(51) fixed to the frame(1) via bearings(B4) and connected to the buffering member(40) via an axis(S14); the first elevating levers(52) connected, at their bottom and top, to the working levers(51) and to the driving assembly(70) via an axis(S18 and S17); and the first adjusting rod(53) connected, at its top and bottom, to the first elevating levers(52) and to the first elevation adjusting assembly(90) via axes(S19 and S20).

7. The apparatus according to Claim 6, wherein the working levers(51) are connected, at their front ends, to the first connecting levers(41) of the buffering member(40) via an axis(14).

8. The apparatus according to Claim 1, wherein the second working assembly(60) comprises the second working levers(61) fixed to the frame(1) via bearings(B5) and connected to the buffering member(40) via an axis(S15); the

second elevating levers(62) connected, at their bottom and top, to the working levers(61) and to the driving assembly(70) via axis(S22) and axis(S21); and the second adjusting rod(63) connected, at its top and bottom, to the second elevating levers(62) and to the second elevation adjusting assembly(100) via axes(S23 and S24).

9. The apparatus according to Claim 8, wherein the second working levers(61) are connected, at their rear ends, to the second connecting levers(42) of the buffering member(40) via an axis(15).

10. The apparatus according to Claim 1, wherein the driving assembly(70) comprises a driving motor(71) electrically connected to the controller(300) and equipped with a speed reducer(71a); a crank(72) connected to the speed reducer(71a) through an eccentric shaft(72a); a connecting arm(73) connected to the crank(72) through an axis(S25) and fixed, at its bottom, to the frame(1) through a bearing(B6); a driving lever(74) fixed, at its middle point, to the rear point of the frame(1) through bearings(B7); a connecting rod(75) connected, at its opposite ends, to the connecting arm(73) and to the bottom of the driving lever(74) through axes(S26 and S27); and a first, second and third link(76, 77 and 78) for being moved forward and backward by the driving lever(74) and for operating both the sliding assembly(20) and the first and second working assemblies(50 and 60).

11. The apparatus according to Claim 1, wherein the first link(76) is connected, at its opposite ends, to the top of the driving lever(74) and the first elevating levers(52) of the first working assembly(50) through the axes(S28 and S17).

12. The apparatus according to Claim 10, wherein the second link(77) is connected, at its opposite ends, to the first elevating levers(52) of the first working assembly(50) and the second elevating levers(62) of the second working assembly(60) through axes(S29 and S21).

13. The apparatus according to Claim 10, wherein the third link(78) is connected, at its opposite ends, to the second elevating levers(62) and the elevating levers(23) of the sliding assembly(20) through axes(S30 and S3).

14. The apparatus according to Claim 1, wherein the adjusting assembly(80) comprises a motor(81) operating in a positive negative mode and electrically connected to a controller(300); a screw bar(82) connected to the motor(81); an adjusting nut(83) screw engaged on the screw bar(82) for longitudinal movement; and a sensor(84) for detecting the position of the adjusting nut(83), the sensor being electrically connected to the controller(300).

15. The apparatus according to Claim 14, wherein the adjusting nut(83) is connected to the adjusting rod(24) via an axis(S6).

16. The apparatus according to Claim 1, wherein the first elevation adjusting assembly(90) comprises a first motor(91) operating in a positive negative mode and electrically connected to a controller(300); a first screw bar(92) connected to the first motor(91); a first adjusting nut(93) screw engaged on the first screw bar(92) for longitudinal movement; and a first sensor(94) for detecting the position of the first adjusting nut(93), the sensor being electrically connected to the controller(300).

17. The apparatus according to Claim 16, wherein the adjusting nut(93) is connected to the first adjusting rod(53) through the axis(S20).

18. The apparatus according to Claim 1, wherein the second elevation adjusting assembly(100) comprises a second motor(110) operating in a positive negative mode and electrically connected to a controller(300); a second screw bar(120) connected to the second motor(110); a second adjusting nut(130) screw engaged on the second screw bar(120) for longitudinal movement; and a second sensor(140) for detecting the position of the second adjusting nut(130), the sensor being electrically connected to the controller(300).

19. The apparatus according to Claim 18, wherein the second adjusting nut(130) is connected to the second adjusting rod(63) of the second working assembly(60) through the axis(S24).

20. The apparatus according to Claim 1, wherein the load adjusting assembly(200) comprises a motor(210) operating in a positive negative mode and electrically connected to the controller(300); a screw bar(220) connected to the motor(210); an adjusting nut(230) screw engaged on the screw bar(220) so as to be movable longitudinally and fixed pivotally, at its bottom, to the frame(1) via an axis(S31); a spring(240) connected, at its opposite ends, to the top of the adjusting nut(230) and the elevating assembly(30) respectively; and a load sensor(250) electrically connected to the controller(300) to detect the tension of the spring(240).

21. The apparatus according to Claim 20, wherein the spring(240) is connected to the driven lever(32) of the elevating assembly(30) via the axis(S13)

22. The apparatus according to Claim 1, wherein the controller(300) is so arranged that it can control the motor(81) of the distance adjusting assembly(80), the first and second motors(91, 110) of the first and second elevation adjusting assemblies(90, 100), and the motor(210) of the load adjusting assembly(200).